Candidate surname | Other names

**Pearson Edexcel
Level 3 GCE**

Centre Number | Candidate Number

Monday 20 May 2019

Afternoon (Time: 2 hours) | Paper Reference **9PS0/01**

Psychology

Advanced
Paper 1: Foundations in Psychology

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- The list of formulae and statistical tables are printed at the start of this paper.
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

$$\sqrt{\left(\frac{\sum(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1 - \frac{6\sum d^2}{n(n^2-1)}$$

Critical values for Spearman's rank

	Level of significance for a one-tailed test				
	0.05	0.025	0.01	0.005	0.0025
	Level of significance for a two-tailed test				
N	0.10	0.05	0.025	0.01	0.005
5	0.900	1.000	1.000	1.000	1.000
6	0.829	0.886	0.943	1.000	1.000
7	0.714	0.786	0.893	0.929	0.964
8	0.643	0.738	0.833	0.881	0.905
9	0.600	0.700	0.783	0.833	0.867
10	0.564	0.648	0.745	0.794	0.830
11	0.536	0.618	0.709	0.755	0.800
12	0.503	0.587	0.678	0.727	0.769
13	0.484	0.560	0.648	0.703	0.747
14	0.464	0.538	0.626	0.679	0.723
15	0.446	0.521	0.604	0.654	0.700
16	0.429	0.503	0.582	0.635	0.679
17	0.414	0.485	0.566	0.615	0.662
18	0.401	0.472	0.550	0.600	0.643
19	0.391	0.460	0.535	0.584	0.628
20	0.380	0.447	0.520	0.570	0.612
21	0.370	0.435	0.508	0.556	0.599
22	0.361	0.425	0.496	0.544	0.586
23	0.353	0.415	0.486	0.532	0.573
24	0.344	0.406	0.476	0.521	0.562
25	0.337	0.398	0.466	0.511	0.551
26	0.331	0.390	0.457	0.501	0.541
27	0.324	0.382	0.448	0.491	0.531
28	0.317	0.375	0.440	0.483	0.522
29	0.312	0.368	0.433	0.475	0.513
30	0.306	0.362	0.425	0.467	0.504

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E} \qquad\qquad df = (r-1)(c-1)$$

Critical values for chi-squared distribution

	Level of significance for a one-tailed test					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of significance for a two-tailed test					
df	0.20	0.10	0.05	0.025	0.01	0.001
1	1.64	2.71	3.84	5.02	6.64	10.83
2	3.22	4.61	5.99	7.38	9.21	13.82
3	4.64	6.25	7.82	9.35	11.35	16.27
4	5.99	7.78	9.49	11.14	13.28	18.47
5	7.29	9.24	11.07	12.83	15.09	20.52
6	8.56	10.65	12.59	14.45	16.81	22.46
7	9.80	12.02	14.07	16.01	18.48	24.32
8	11.03	13.36	15.51	17.54	20.09	26.12
9	12.24	14.68	16.92	19.02	21.67	27.88
10	13.44	15.99	18.31	20.48	23.21	29.59
11	14.63	17.28	19.68	21.92	24.73	31.26
12	15.81	18.55	21.03	23.34	26.22	32.91
13	16.99	19.81	22.36	24.74	27.69	34.53
14	18.15	21.06	23.69	26.12	29.14	36.12
15	19.31	22.31	25.00	27.49	30.58	37.70
16	20.47	23.54	26.30	28.85	32.00	39.25
17	21.62	24.77	27.59	30.19	33.41	40.79
18	22.76	25.99	28.87	31.53	34.81	42.31
19	23.90	27.20	30.14	32.85	36.19	43.82
20	25.04	28.41	31.41	34.17	37.57	45.32
21	26.17	29.62	32.67	35.48	38.93	46.80
22	27.30	30.81	33.92	36.78	40.29	48.27
23	28.43	32.01	35.17	38.08	41.64	49.73
24	29.55	33.20	36.42	39.36	42.98	51.18
25	30.68	34.38	37.65	40.65	44.31	52.62
26	31.80	35.56	38.89	41.92	45.64	54.05
27	32.91	36.74	40.11	43.20	46.96	55.48
28	34.03	37.92	41.34	44.46	48.28	56.89
29	35.14	39.09	42.56	45.72	49.59	58.30
30	36.25	40.26	43.77	46.98	50.89	59.70
40	47.27	51.81	55.76	59.34	63.69	73.40
50	58.16	63.17	67.51	71.42	76.15	86.66
60	68.97	74.40	79.08	83.30	88.38	99.61
70	79.72	85.53	90.53	95.02	100.43	112.32

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

P 5 6 2 0 7 A 0 3 3 6

Mann-Whitney U test formulae

$$U_a = n_a n_b + \frac{n_a(n_a+1)}{2} - \sum R_a$$

$$U_b = n_a n_b + \frac{n_b(n_b+1)}{2} - \sum R_b$$

(U is the smaller of U_a and U_b)

Critical values for the Mann-Whitney U test

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \le 0.05$ (one-tailed), $p \le 0.10$ (two-tailed)																
5	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25
6	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32
7	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39
8	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47
9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
10	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62
11	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69
12	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77
13	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84
14	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92
15	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100
16	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107
17	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115
18	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123
19	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130
20	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138

	N_b															
N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	2	3	4	6	7	8	9	11	12	13	15	16	18	19	20	22
7	3	4	6	7	9	11	12	14	16	17	19	21	23	24	26	28
8	4	6	7	9	11	13	15	17	20	22	24	26	28	30	32	34
9	5	7	9	11	14	16	18	21	23	26	28	31	33	36	38	40
10	6	8	11	13	16	19	22	24	27	30	33	36	38	41	44	47
11	7	9	12	15	18	22	25	28	31	34	37	41	44	47	50	53
12	8	11	14	17	21	24	28	31	35	38	42	46	49	53	56	60
13	9	12	16	20	23	27	31	35	39	43	47	51	55	59	63	67
14	10	13	17	22	26	30	34	38	43	47	51	56	60	65	69	73
15	11	15	19	24	28	33	37	42	47	51	56	61	66	70	75	80
16	12	16	21	26	31	36	41	46	51	56	61	66	71	76	82	87
17	13	18	23	28	33	38	44	49	55	60	66	71	77	82	88	93
18	14	19	24	30	36	41	47	53	59	65	70	76	82	88	94	100
19	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	107
20	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	114

	N_b															
N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20
6	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
8	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41
9	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48
10	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55
11	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62
12	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69
13	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
14	13	17	22	26	31	36	40	45	50	55	59	64	67	74	78	83
15	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90
16	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98
17	17	22	28	34	39	45	51	57	63	67	75	81	87	93	99	105
18	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112
19	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119
20	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127

	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

N_a

$p \leq 0.005$ (one-tailed), $p \leq 0.01$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
6	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
8	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
9	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
10	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
11	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
12	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
13	7	10	13	17	20	24	27	31	34	38	42	45	49	53	56	60
14	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
15	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
16	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
17	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
18	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
19	12	17	22	28	33	39	45	51	56	63	69	74	81	87	93	99
20	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

Wilcoxon Signed Ranks test process

- Calculate the difference between two scores by taking one from the other

- Rank the differences giving the smallest difference Rank 1

    Note: do not rank any differences of 0 and when adding the number of scores, do not count those with a difference of 0, and ignore the signs when calculating the difference

- Add up the ranks for positive differences

- Add up the ranks for negative differences

- T is the figure that is the smallest when the ranks are totalled (may be positive or negative)

- N is the number of scores left, ignore those with 0 difference

Critical values for the Wilcoxon Signed Ranks test

	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
n	0.1	0.05	0.02
N=5	0	-	-
6	2	0	-
7	3	2	0
8	5	3	1
9	8	5	3
10	11	8	5
11	13	10	7
12	17	13	9

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

Answer ALL questions.

SECTION A: SOCIAL PSYCHOLOGY

1 Fuchsia was interested to see whether location affected prejudice. She is planning to visit three towns in her area and ask participants questions to judge how prejudiced they are.

(a) Describe how Fuchsia could recruit her participants using a volunteer sampling technique.

(2)

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(b) Fuchsia intends to use thematic analysis to analyse her data.

Explain **one** strength and **one** weakness of Fuchsia using thematic analysis to analyse her data.

(4)

Strength

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Weakness

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(c) Fuchsia has drafted some open-ended questions that she plans to use, which are shown in **Figure 1**.

> *My prejudice questions*
>
> 1. *If someone called you a racist, what would you say?*
>
> 2. *What do you think about people different to yourself?*
>
> 3. *Research has indicated that people who have social dominance orientation and right-wing authoritarianism may be more prejudiced than people who score higher in openness, and agreeableness. What do you think about this?*

Figure 1

Explain **one** improvement Fuchsia could make to the questions she has drafted shown in **Figure 1**.

(2)

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(Total for Question 1 = 8 marks)

2 Evaluate social impact theory as an explanation of obedience.

(8)

(Total for Question 2 = 8 marks)

TOTAL FOR SECTION A = 16 MARKS

SECTION B: COGNITIVE PSYCHOLOGY

3 Tulving (1972) proposed an explanation of long-term memory.

Describe what Tulving (1972) meant by 'semantic memory'.

(2)

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(Total for Question 3 = 2 marks)

Turn over ▶

4 During your course you will have learned about the classic study by Baddeley (1966b).

(a) State **two** findings of Baddeley (1966b).

(2)

Finding one

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Finding two

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(b) Explain **two** weaknesses of Baddeley (1966b).

(4)

Weakness one

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Weakness two

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(Total for Question 4 = 6 marks)

5 Cognitive psychology has been used to explain key questions of relevance to today's society.

Discuss the key question for society you have studied using concepts, theories and/or research from cognitive psychology.

(8)

Key question

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(Total for Question 5 = 8 marks)

TOTAL FOR SECTION B = 16 MARKS

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SECTION C: BIOLOGICAL PSYCHOLOGY

6 Charles is 14 years old and has been displaying aggressive behaviour.

Recently he has shouted insults at other students and broken classroom equipment in his science lessons. Charles has also been in a fight with the football captain after Charles let in an important goal during the last match of the season.

Describe how hormones could account for Charles's behaviour.

(3)

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(Total for Question 6 = 3 marks)

7 As part of your psychology course, you were required to carry out a practical investigation when studying biological psychology.

(a) State the research hypothesis for your practical investigation in biological psychology.

(2)

(b) As part of your practical investigation when studying biological psychology, you were required to carry out a statistical test.

Describe the results of the statistical test you carried out for your practical investigation in biological psychology.

(2)

P 5 6 2 0 7 A 0 1 9 3 6

(c) Explain **one** strength of the practical investigation you carried out when studying biological psychology.

(2)

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(d) Explain **one** improvement you could make to the practical investigation you carried out when studying biological psychology.

(2)

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(Total for Question 7 = 8 marks)

8 During the course you will have learned about the classic study by Raine et al. (1997).

Evaluate the classic study by Raine et al. (1997).

(8)

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(Total for Question 8 = 8 marks)

TOTAL FOR SECTION C = 19 MARKS

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SECTION D BEGINS ON THE NEXT PAGE.

SECTION D: LEARNING THEORIES

9 Malik carried out an observation in a local cinema to investigate which films males and females watch. Malik stood near two screen entrances where he could not be seen and tallied whether males and females entered the screen to watch either a horror film or a comedy film.

(a) Identify the type of observation that Malik used in this study.

(1)

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(b) **Table 1** shows the number of males and females who watched either a horror film or a comedy film at the local cinema.
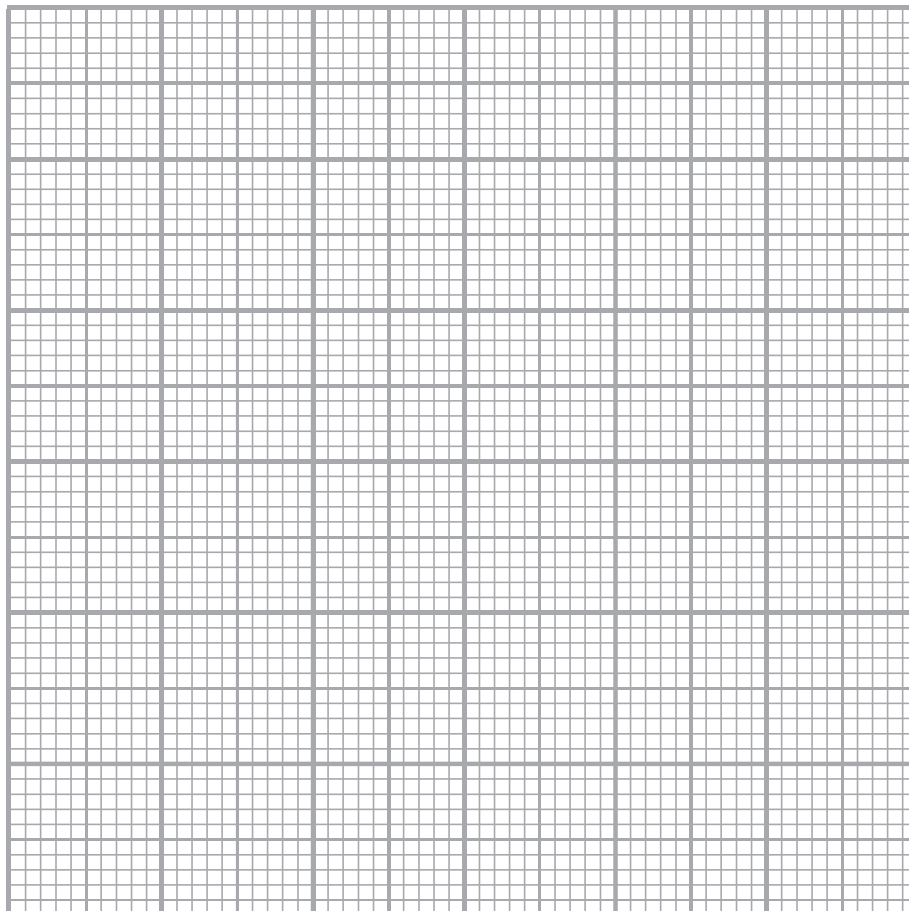
	Comedy Film	**Horror Film**
Males	//// //// //	////
Females	//// //	//// ////

Table 1

Using the data from **Table 1**, draw a bar chart to represent the number of males and females who watched a horror film.

(3)

Title

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Turn over ▶

(c) Complete **Table 2** to calculate the chi-squared test for Malik's study to **two** decimal places.

(4)

		Observed	Expected	O-E	(O-E)²	(O-E)² /E
Males	**Comedy Films**	12	9.5			
	Horror Films	5	7.5			
Females	**Comedy Films**	7	9.5			
	Horror Films	10	7.5			

Chi-squared =

Table 2

SPACE FOR CALCULATIONS

Chi-squared (X^2) ....

(d) Malik had a two-tailed (non-directional) hypothesis with df = 1 and used p=0.05 as his level of significance.

Determine whether there is a significant difference between male and female film choice.

(1)

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(e) Malik used quantitative data for his study into film choice at the local cinema.

Explain **one** weakness of using quantitative data for Malik's study.

(2)

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(Total for Question 9 = 11 marks)

10 Tom has a daughter called Holly who is 18 months old. Tom is trying to teach Holly how to use a fork by demonstrating to her how he holds it. He also shows Holly how to use the fork to pick up food and says "well done" to her every time she uses the fork correctly. Holly smiles and laughs each time she picks up some food with the fork.

Discuss how social learning theory could account for Holly using a fork on her own. You must make reference to the context in your answer.

(8)

(Total for Question 10 = 8 marks)

TOTAL FOR SECTION D = 19 MARKS

SECTION E: ISSUES AND DEBATES

11 There are many considerations that need to be taken into account when conducting research with human participants.

Assess how far research from social and cognitive psychology could be considered ethical.

(8)

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(Total for Question 11 = 8 marks)

12 To what extent is biological psychology scientific?

(12)

P 5 6 2 0 7 A 0 3 3 3 6

(Total for Question 12 = 12 marks)

TOTAL FOR SECTION E = 20 MARKS
TOTAL FOR PAPER = 90 MARKS

P 5 6 2 0 7 A 0 3 4 3 6

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